

WE CLAIM:

1. A repeater adapted to transparently mediate signaling between a wireless communications device and a wireless communications network, the repeater comprising:
- a Directional Donor Unit (DDU) adapted to maintain a network link with a transceiver of the wireless communications network;
 - a Subscriber Coverage Unit (SCU) adapted to maintain a local link with the wireless communications device within a personal wireless space of the repeater, the SCU comprising:
 - means for detecting respective uplink and downlink channel frequencies of the wireless communications device; and
 - control means adapted to control at least the SCU to selectively receive and transmit signals within the detected uplink and downlink channel frequencies.
2. A repeater as claimed in claim 1, wherein the DDU comprises:
- a directional donor antenna (DDA) adapted to receive downlink channel signals from a base station of the wireless communications network, and to transmit uplink channel signals within a comparatively narrow beam to the base station; and

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- a transceiver diplexer (TRD) adapted to amplify received downlink channel signals and control a transmit power level of the uplink signals.
3. A repeater as claimed in claim 2, wherein the DDA is vertically polarized.
 4. A repeater as claimed in claim 2, wherein the DDA and the TRD are integrated into a single unit.
 5. A repeater as claimed in claim 1, wherein the SCU comprises:
 - a subscriber coverage antenna (SCA) adapted to receive uplink RF signals from the wireless communications device, and transmit downlink RF signals as a comparatively wide beam; and
 - a dual-directional processor (DDP) adapted to control respective power levels of the uplink and downlink RF signals.
 6. A repeater as claimed in claim 5, wherein the SCA is horizontally polarized.
 7. A repeater as claimed in claim 5, wherein the SCA and the DDP are integrated into a single unit.
 8. A repeater as claimed in claim 5, wherein the DDP comprises means for controlling a transmit power level of the uplink RF signals based on a received power level of the downlink RF signals.
 9. A repeater as claimed in claim 1, wherein the DDU and the SCU are integrated into a single unit.

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a digital controller adapted to control a gain of each IGC based on detection at least one of an uplink channel and a downlink channel.

15. A repeater as claimed in claim 1, wherein the control means further comprises means for dynamically adjusting a coverage area of the personal wireless space in accordance with a location of the wireless communications device relative to the SCU.
16. A repeater as claimed in claim 15, wherein the means for dynamically adjusting a coverage area of the personal wireless space comprises means for controlling a transmit power level of downlink RF signals transmitted by the SCA based on detected signal power of uplink RF signals received by the SCA.
17. A repeater as claimed in claim 16, wherein the means for controlling the transmit power level of downlink RF signals comprises:
 - a broadband path adapted to sample the uplink RF signal received by the SCA; and
 - a variable gain amplifier coupled to the broadband path and adapted to adjust a power level of the downlink RF signal based on the sampled uplink RF signal.

18. A method of providing wireless communications services of a wireless communications network to a subscriber located in an area that is poorly serviced by the wireless communications network, the method comprising a step of providing the subscriber with a personal repeater adapted to transparently mediate signaling between at least one wireless communications device and a base station of the wireless communications network.
19. A method of enabling a subscriber located in an area that is poorly serviced by a wireless communications network to access wireless communications services of the wireless communications network, the method comprising a step of providing the subscriber with a personal repeater adapted to transparently mediate signaling between a wireless communications device and a base station of the wireless communications network.